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Note di Ricerca

Research Notes

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# The Importance of Teacher-Student Relationship for Distance Learning During Covid-19 Pandemic

**Émiliane du Mérac** [1] - **Ceyda Şensin** [2] - **Stefano Livi** [1]

[1] *Sapienza Univerità di Roma - Department of Developmental and Social Psychology (Italy)*

[2] *Ankara Üniversitesi (Turkey)*

emiliane.rubatdumerac@uniroma1.it
stefano.livi@uniroma1.it

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## L'IMPORTANZA DELLA RELAZIONE INSEGNANTE-STUDENTE PER L'APPRENDIMENTO A DISTANZA DURANTE LA PANDEMIA COVID-19

## Abstract

*Online education has become mandatory in all countries since the Covid-19 pandemic. In order to provide practical inspiration for schools to improve online learning and teaching efficacy, and satisfaction, we explored the distance learning experience of 427 upper secondary school students in Italy. Rather than focusing on the relevance of digital tools and abilities, as most e-learning studies do, we focused on the function and influence of the teacher-student relationship and how online learning affects that connection. The study's findings revealed that even if the technology was the central focus of upgrading the educational system, the satisfaction for the Distal Learning education is heavily based on teachers' ability to maintain a high-quality relationship. Indeed, the quality of the relationship is a far better predictor of student satisfaction, with online education satisfaction having substantially higher coefficients than technology satisfaction, even controlling for both teachers' and students' technological knowledge. We also found a significant moderating effect in the interaction between quality of the relationship and technology satisfaction, implying that when students are satisfied with the technology used in online education, a high-quality relationship with teachers can boost satisfaction.*

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## 1. Introduction

With the outbreak of the Covid-19 pandemic, the use of online education has become a requirement on a global scale (UNESCO, 2020a). As a result, governments have taken precautions to conduct instruction remotely, following the closure of educational institutions, ensuring that distant education is once again a growing trend (Cecalupo *et al.*, 2020; Dhawan, 2020; Liguori & Winkler, 2020; Şensin & du Mérac, 2020; UNESCO, 2020b).

In all nations where it was used, online teaching revealed much the same issues in many nations, including Italy (OECD, 2020). The educational process had to be modified, as instructors, students, and parents had to learn to collaborate on a new, non-traditional basis (Mineo, 2020; Ng & Renshaw, 2020). In Italy, different reasons may hamper an active and efficient interaction online: the lack of devices (ISTAT, 2020), the little or limited experience of teachers' distance education (Pellegrini & Maltinti, 2020), and the increase of mental distress cases (Pisano, Galimi, & Cerniglia, 2020).

Most of the studies on e-learning focused on the importance of digital resources and skills. However, few studies have analyzed the role and influence of the teacher-student relationship and how the online setting affects that relationship. There is much talk of the teacher's role change in distance learning, implying a shift of attention from the teacher who instructs to the student who learns. This learner-centered pedagogical approach is based on the «New Education» principles from the beginning of the twentieth century. It is based on the idea that guiding learners too much interferes with the natural learning processes that allow individuals to build new knowledge from their own experiences (Kirschner *et al.*, 2006).

Even when the focus for assessing an e-learning environment is on the interpersonal relationships (e.g. Shedroff, 2009) and communication (Tang *et al.*, 2016), emphasis is placed on the functions of the teacher (who assist the needs of the student) and those of the student (who becomes the protagonist). A central element of active education risks being lost: the teacher-learner relationship. Rousseau already maintained that the learner's identity development and knowledge construction were determined by this relationship (St-Pierre, 2007).

Recently, sociologist Rosa (2020) recognized a substantial significance beyond successful learning outcomes and student satisfaction in this

relationship. In his opinion, the student's relationship with his classmates and teachers determines his relationship with the world. His impression of not being seen or perceived, of not being «there», can lead to consequences at least as disastrous as the feeling of being rejected by others. In virtual classrooms, where teachers and students are physically separated from each other, teachers and students can contribute to the development of a sense of social presence and belonging to the community (Loch & Reushle, 2008; Rienties *et al.*, 2010; McDaniels, Pfund, & Barnicle, 2016).

In this paper, we focus on Distance Learning (DL) satisfaction and how it is affected by a trustful relationship between teachers and learners, technology use, and students' and teachers' technology knowledge. We postulated that the importance students attribute to school experiences and their satisfaction are highly influenced by the relationship with teachers and especially trust beyond and over the use and satisfaction of the technology used in distance learning interaction. Trust is the optimistic attitude of the individual concerning the results of an événement (Delerue & Bérard, 2007), which manifests itself in the form of personal expectations (Chiles & McMackin, 1996). With respect to this definition, we built a scale of quality of the teacher-student relationship that expresses an attitude of overall trust and a positive disposition towards the teachings, help, and acknowledgments received.

Our research examined how the teachers-learners relationship could be associated with student satisfaction with DL. For this purpose, we examined students' perspectives on how remote teaching was applied by their teachers and how satisfied they were with the DL, the teachers, and their school experience, which includes two different contexts: the school one and the online one lived at home. The periods of closure of the schools, where the teaching was carried out online, alternated with periods of presence at school. Therefore, the students also answered questions about their school context experience, interaction with teachers, classmates, and structures and services. Hence, in the present paper, we tested four different hypotheses:

- h1: the positive effect of satisfaction with the use of technology on DL satisfaction;
- h2: the positive effect of quality of the teacher-student relationship on DL satisfaction;
- h3: the association between knowledge and satisfaction on the use of technology and DL satisfaction, moderated by teacher-student quality relationship;
- h4: all these effects are used as predictors controlling for students' and teachers' technological and digital knowledge.

## 2. Method

This study is part of the annual research that we carry out among the Italian youth population in collaboration with *Campus – Salone dello studente* (Lucisano & du Mérac, 2015, 2016, 2019; du Mérac, Livi, & Lucisano, 2020).

Distance learning in Italy began in April 2020 and continued with short interruptions until a whole school reopening policy. Given the pandemic situation, we decided to collect relevant information for evaluating and analyzing the characteristics and needs of the current Distance Learning (DL) model.

During 2020 and 2021, *Campus* organized online academic and professional orientation events dedicated to Italian students. Consequently, the questionnaires were submitted online from their website between October and December 2020.

*Sample and procedure* – Four hundred and twenty-seven Italian students (79% women) of upper secondary school (71% enrolled in the last year of school) participated in the study voluntarily. Their mean age was 17,74 years (SD = 0.98), and 58.5% of the participants had 18 years old. Information and consent to use their anonymized data were included at the beginning of the online questionnaire.

*Measures* – All responses to questionnaire items were recorded on 5-point scales ranging from 1 (*not at all*) to 5 (*very much*), and variables scores were based on the mean computed across these items.

*DL satisfaction* – This scale constitutes a one-factor solution of a 13-item self-report instrument. It is designed to assess students' satisfaction with their experience of DL, on the didactic and organizational level, and on the emotional and relational one (e.g., *Concerning your online teaching experience, how satisfied are you with the following aspects?* «The stimulation of motivation»; «The technical support to students»). In the present sample, Cronbach's alpha was .92.

*Satisfaction with technology use* – This scale constitutes a brief 3 item self-report instrument designed to assess students' satisfaction with the technological and multimedia tools available, and their didactic use (*How satisfied have you been with …* «the usage of technologies in teaching»; «the technological tools available»; «the usage of multimedia tools in class»). Cronbach's alpha was .81.

*Quality of the teacher-student relationship* – This scale constitutes a one-factor solution of 6 items self-report instrument. It is designed to assess how the student evaluates the relationship of trust with the teachers, their competence, authority, and ability to evaluate and help constructively

(*How satisfied have you been with* … «the trust between teachers and students?»; «the usefulness of what was taught in the lessons?»; «the help you received to understand/study the lessons?»; «the lessons you took?»; «the enhancement of merit?»; «the usefulness of the evaluations and corrections for improvement?») Cronbach's alpha was .84.

In addition, we used two items to assess *satisfaction with students' technology knowledge* and *satisfaction with teachers' technology knowledge* (items are: «How satisfied are you with the teachers' technological and digital knowledge?» and «How satisfied are you with your technological and digital knowledge?»).

## 3. Results

Descriptive statistics and correlations between variables are presented in *Table 1*. The means show an average satisfaction with the DL, the teachers' relationship, and the technologies used. It is interesting to note that, from students' point of view, the perception of technological skills is considered higher than that perceived in teachers: in particular were registered high knowledge values for students and medium-low values for teachers. This difference between the means is statistically significant (Mstud = 4.13 vs Mteac = 2.74; Tpaired [426] = 21.67; $p < .001$). Concerning the correlation coefficients, the matrix shows a clear interrelation between all the variables, except for the students' perception of competence which does not seem to be strongly related either to satisfaction with the DL or to the variables related to the teachers (pooled $r = .11$). Finally, it is important to underly the relationship between the quality of teacher-student relationship with satisfaction with technology use ($r = .40$; $p < .001$), meaning that when students satisfied with technology may benefit from the relationship, it may help them to use more DL technology.

*Table 1. – Descriptives statistics and correlations between variables.*

|  | M | SD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| 1. DL satisfaction | 2.79 | .84 | 1 | | | | |
| 2. Quality of the teacher-student relationship | 3.28 | .83 | .64** | 1 | | | |
| 3. Satisfaction with technology use | 2.93 | .96 | .46** | .40** | 1 | | |
| 4. Student technology knowledge | 4.13 | .91 | .12* | .09 | .11* | 1 | |
| 5. Perceived teachers technology knowledge | 2.74 | 1.12 | .54** | .42** | .44** | .16** | 1 |

*Note:* * = $p < .05$; ** = $p < .01$; N = 427.

Predictions regarding the effects on DL satisfaction of quality of the tea-
cher-student relationship, satisfaction with technology use (and the inte-
raction with these two), controlling for perceived knowledge of teachers,
students, and respondents gender was tested using a moderated multiple
regression analyses using PROCESS (Model 1; Hayes, 2012) using the
product variable approach suggested by Baron and Kenny (1986). Fol-
lowing Aiken and West (1991), predictor variables were standardized, and
the interaction term was based on these standardized scores. The summary
of the results of these analyses is reported in *Table 2*.

As shown in *Table 2*, consistent with previous research, the results
yield significant and positive relationships of quality of the relationship,
quality of technology, and teachers perceived technology knowledge.

*Table 2. – Summary of results of moderated multiple regression analyses.*

|  | Coefficient | SE | t | p |
|---|---|---|---|---|
| Constant | 2.17 | .15 |  |  |
| MAIN PREDICTORS |  |  |  |  |
| Quality of the relationship with teachers | .47 | .04 | 12.07 | < .001 |
| Technology satisfaction | .14 | .03 | 4.06 | < .001 |
| Interaction Q*T | .07 | .03 | 2.08 | .04 |
| CONTROL VARIABLES |  |  |  |  |
| Student technology knowledge | .01 | .03 | .37 | .71 |
| Perceived teachers technology knowledge | .20 | .03 | 6.83 | < .001 |
| R | .722 |  |  |  |
| R² | .521 |  |  |  |
| F (p) | 91.65 (p <. 001) |  |  |  |

In particular, the quality of the relationship that is largely the stronger
predictor of students DL satisfaction with coefficients that are much hi-
gher than technology satisfaction B = .47 (*t* = 12.08; *p* < .001) vs .14 (*t* =
4.09; *p* < .001) even controlling for students knowledge (which is not si-
gnificant) and perceived teachers knowledge on technology (B = .20; *t* =
6.83; *p* < .001). Interestingly, we found also the expected significant mo-
deration effect in the interaction between quality of the relationship with
technology satisfaction (B = .07; *t* = 2.08; *p* = 04), suggesting that when
students are satisfied with the technology used during DL, high quality of
the relationship with teachers can even boost the satisfaction (relationship
between technology satisfaction and DL satisfaction for high relationship

quality B = .20 (*t* = 4.39; *p* < .001) vs low relationship quality B =.08 (SE = 0.44; *t* = 1.82; *p* = .067). These findings are illustrated in *Figure 1*, where we further illustrate the nature of these interaction effects, simple slopes analyses for low (1 SD below the mean) and high (1 SD above the mean) quality of relationship following Aiken and West (1991).
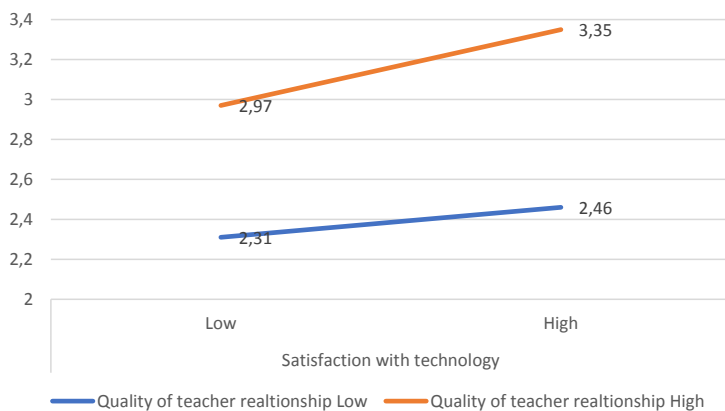


*Figure 1. – Simple slope analysis of the moderation of quality of relationship on technology satisfaction - DL satisfaction relationship.*

## 4. Discussion

The experience of the Covid-19 pandemic has been an important engine of innovation for the whole educational system, for several countries and in particular in Italy (Cecalupo *et al.*, 2020; Dhawan, 2020; Liguori & Winkler, 2020; Şensin & du Mérac, 2020; UNESCO, 2020b). Since the first weeks, it has imposed to reset the educational activities from physical to virtual environment highlighting a strong gap between ordinary educational practices and the scarce technologies and technological knowledge available to teachers and students. For this reason, the first government's investments were aimed at providing students and teachers with basic technologies and knowledge that would enable them to maintain their educational goals. However, these heavy investments left behind the core aspect of educational activity: teachers' relationships. While research has shown that the availability of technologies and knowledge of their use are limited (ISTAT, 2020), we know only a little about how important they

are to influence the DL and the core importance of the teacher-learner in this new scenario, in particular during the Covid 19 pandemic. With the pandemic as the research background, we explored the DL experience of upper secondary school students in Italy. We attempted to provide practical inspiration for schools to improve online learning, teaching efficacy, and students' contentedness.

The research questionnaire assessed the students' DL satisfaction, technology satisfaction, teacher-student relationship, students' and teachers' technology knowledge. Our hypothesis h1 was confirmed: students who expressed dissatisfaction with technology had lower satisfaction ratings. This result was not surprising: Teachers and students must develop ICT knowledge and skills for effective use of online teaching and positively impact the development of their students' digital skills and, therefore, engagement (Assar, 2015; Salehi, Shojaee, & Sattar, 2015). Palmer and Holt (2009) indicated that comfort with technology is important for DL course satisfaction.

More interestingly, findings also confirmed hypotheses h2 and h3: the effect of the teacher-student relationship on DL satisfaction is significant and show a stronger relationship than the previous one; the quality of the relationship proved to be the strongest predictor of students' positive experience of DL, with coefficients that are much higher than technology satisfaction, even controlling for students knowledge (which is not significant), perceived teachers knowledge on technology and gender respondents (which is not significant neither). Interestingly, there is a significant moderation effect in the interaction between quality of the relationship with technology satisfaction, suggesting that when students are satisfied with the technology used during DL, high quality of the relationship with teachers enhances the satisfaction.

It is a central argument that when teachers support students' needs and concerns, also care for students in a distance learning, they stimulate students' motivation (Noddings, 2015; Fryer & Bovee, 2016; Umarji *et al.*, 2021) and alleviate their difficulties (Pozzoli, Gini, & Scrimin, 2021). If there is a communication and engagement gap between the parties, distance learners may face feelings of loneliness, dissatisfaction, and anxiety (Hara & Kling, 2001). When possible, teachers should encourage all types of interactions in their online courses: learner-content, learner-learner, and learner-instructor interactions. Together with Alqurashi (2019), our findings confirmed the importance of the last type of interaction.

Several authors recall the lack of sufficient consideration of the emotions generated by the relationship between teachers and students and their role in pedagogical practice (Boler, 1999; Cramp *et al.*, 2012). Teaching is

an emotional practise (Hargreaves, 2000) that requires kindness, trust, and responsibility, particularly when done online (Cramp & Lamond, 2016). Too often, the commitment to building a relationship with students is neglected by pedagogical planning and professional training (Johnson *et al.*, 2014 in *Horizon Report*). This situation is particularly true for digital education, which does not lead to «transformative pedagogical practices» if the focus is only on access to information and communication technologies (Ng'ambi & Bozalek, 2013).

Practically, teachers are recommended to develop good social and personality skills (Nuraini *et al.*, 2021) that positively influence learning outcomes and satisfaction (Pahrudin, Martono, & Murtini, 2016). Furthermore, the stress generated by new teaching methods and health emergency management in schools strains social skills, and it is important to allow teachers to learn how to manage it (Espino-Díaz, 2020). The results of our study highlighted the importance of investing in the training of teachers' social skills, even before digital skills, or at least in parallel with them. However, this study had its limitations. We adopted a voluntary sampling approach that did not represent the whole population of Italian upper secondary school students and did not allow for generalizability of finding. For future studies, it is suggested to obtain more samples around the world that can be representative.

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## Riassunto

*L'istruzione online è diventata obbligatoria in tutti i Paesi colpiti dalla pandemia di Covid-19. Al fine di fornire dati utili alla pratica scolastica e rendere più efficaci e soddisfacenti i percorsi di insegnamento-apprendimento online, abbiamo analizzato l'esperienza di DAD di 427 studenti e studentesse delle scuole secondarie superiori in Italia. Invece di concentrarci sulla rilevanza degli strumenti e delle abilità digitali, come fanno la maggior parte degli studi sull'e-learning, ci siamo concentrati sul ruolo e sull'influenza*

*della relazione insegnante-studente e su come tale rapporto influisca sulla soddisfazione per l'apprendimento online. Come evidenziato dai risultati della ricerca, benché la digitalizzazione fosse l'obiettivo centrale dell'aggiornamento del sistema educativo, la soddisfazione per la DAD è ancora fortemente basata sulla capacità degli insegnanti di stabilire una relazione positiva e di fiducia con i loro studenti. Infatti, la qualità della relazione è di gran lunga il migliore predittore della soddisfazione degli studenti, con dei coefficienti associati alla soddisfazione per la DAD significativamente più alti di quelli associati alla soddisfazione per l'uso delle tecnologie, anche controllando per il livello di conoscenze tecnologiche degli insegnanti e degli studenti. Abbiamo anche riscontrato un effetto significativo di moderazione nell'interazione tra qualità della relazione insegnanti-studenti e soddisfazione per l'uso delle tecnologie. Dunque, quando gli studenti sono soddisfatti dell'uso delle tecnologie in DAD, la qualità della relazione con gli insegnanti può ulteriormente aumentare la soddisfazione degli studenti.*

*Parole chiave:* Covid-19; Insegnamento a distanza; Rapporto insegnante-studente; Scuola secondaria di secondo grado; Soddisfazione.